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AUTHOR McCloskey-Dale, Susan R.
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ABSTRACT

This report describes using Environmental Communication Teaching (ECT) to assist students with autism spectrum disorder. The paper compares several key points of the ECT approach with other common intervention methods for students with autism and identifies the features of intervention programs or approaches that should be considered when planning treatment for students with autism. ECT is described as a systematic way to enhance classroom staff's skills in the area of designing and responding to increased communicative interactions of students with severe communication disorders. The ECT program involves: (1) engaging the student in activities that will increase the opportunities for communicative interaction, with a focus on initiated communication by the student; (2) structuring the interaction with the communication partner to facilitate the student's knowledge that communication is expected and using partner responses to teach more acceptable, functional, and conventional student responses through modeling and cueing; and (3) arranging the environment to maximize the opportunities for communication and to increase the ability of the student to initiate appropriate communication interactions based on perceived environmental cues. ECT activity selection parameters encourage activities that are functional, typical, and frequent occurrences within the classroom or other chosen environments. (CR)

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ECT and Autism – Making the Connection

Susan R. McCloskey-Dale, M.S., CCC-SLP/L
Educational Consultant for Assistive Technology
and Augmentative Communication
Instructional Support System of Pennsylvania
Harrisburg, PA

McCloskey-Dale

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Environmental Communication Teaching (ECT) will be compared and contrasted with a variety of common programs designed to benefit students with autism spectrum disorder. Prompting and cueing systems, visual supports, environmental arrangements, and task/activity objectives will be compared. Examples of students with autism in ECT classrooms will be used to facilitate the discussion.

Intervention strategies for students who fall under the umbrella of autism spectrum disorder are a hot topic today. There has been much written in the "lay" media, as well as in our various professional journals. An interesting and timely article by Alan Kamhi (1999) addressed the factors that influence the selection of treatment approaches. He questioned how a clinician decides whether to use a new treatment approach and what kind of statements or evidence does it take for a clinician to embrace a different treatment approach? The article is an excellent example of what is going on right now regarding the selection of treatment approaches for students with autism spectrum disorder.

Many clinicians describe themselves as eclectic, and the basis for intervention program selection is often characterized as "because it works". Kamhi (1999) goes on to explore the justification of "because it works" in his article, and brings up several interesting points based on previous studies. A critical determinant in the selection process is often whether the process or intervention leads to demonstrable student gains. If an intervention doesn't produce observable gains, it would be unethical to continue with such an intervention. Most practicing clinicians are savvy research consumers and realize that research oriented efficacy studies sometimes have little to offer for decision-making points for practical, clinical use. While some studies look at efficiency comparisons of different approaches, clinicians are more often concerned with looking at functional outcomes. To focus on only efficiency might compromise the clinician's goal to obtain increased student achievement.

Environmental Communication Teaching (ECT) has been presented at the Southeast Augmentative Communication Conference as a full day pre-conference workshop in 1997, and again as a two-block conference session in 1998. ECT continues to be a systematic way to enhance classroom staff skills

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in the area of designing and responding to increased communicative interactions of students with severe communication disorders. In Pennsylvania and other states in which ECT is being taught and supported, increasing numbers of students with autism spectrum disorder are being targeted by participating classroom teams. There have been a number of instances when ECT trainers have had to answer questions and address concerns that perhaps ECT was not compatible with other interventions being used in programs for students with autism spectrum disorder. This session will compare several key points of the ECT approach with other, common intervention methods for students with autism spectrum disorder. This session will also attempt to identify the features of intervention programs or approaches that should be considered when planning treatment for students with autism spectrum disorder. Feature matching has served us well in the process of assessing the needs of individuals for assistive technology. We would do well to utilize a similar decision-making process when choosing an intervention strategy for any child rather than hop onto the bandwagon of a popular program. Student needs should be the basis for intervention planning, and consideration of factors such as learning style, age, previous therapy results, strengths and relative weaknesses will all play a part in the determination of those needs.

GENERALIZATIONS ABOUT AUTISM

Some common ground on terminology is appropriate since we will be comparing intervention strategies with a specific group of students in mind. Viewed with a simplistic, but functional framework, students with autism spectrum disorder exhibit core deficits in the areas of communication, social interaction, and stereotypical behaviors (Mann & Medley, 1999). DSM-IV guidelines for autism spectrum disorder diagnosis provide more detailed categories, but still the basic areas of investigation are impairment in social interaction, restricted and repetitive behavior and interests, and impairment in communication. Some diagnostic guidelines include the presence of abnormal sensory responses, and resistance to change as additional, characteristic features.

The autism spectrum disorder includes ranges within the "spectrum" of mild to severe, high to low functioning, and high to low verbal. Mann and Medley (1999) described the categories for verbalization as follows:

Low verbal – nonverbal, or limited in vocabulary, phrase length, or spontaneous usage;

Verbal – spontaneous use of speech that is multi-word and includes at least some creative forms; and

High verbal – spontaneous conventional speech.

Most of the students with autism spectrum disorder whose teams have participated in the ECT trainings that I am familiar with (both personally and through reports and videotapings from other clinicians) fall into the low verbal category. Students who are more verbal would certainly benefit from many of

the typical ECT strategies, but ECT also focuses on augmentative communication strategies, which would not usually be necessary for them.

THE BASICS OF ECT

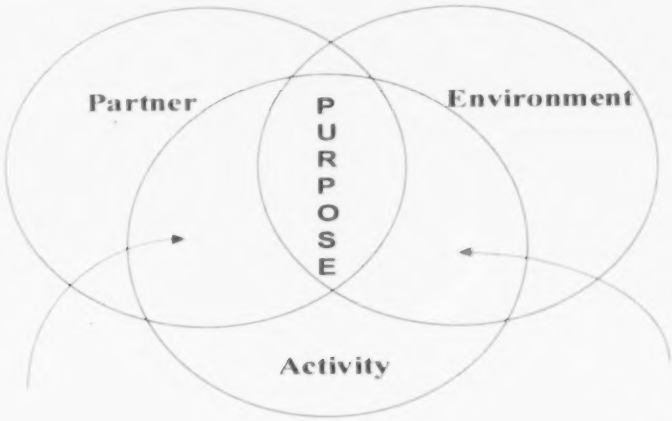
The basics of the Environmental Communication Teaching (ECT) program involve:

Engaging the student in **activities** that will increase the opportunities for communicative interaction, with a focus on initiated communication by the student;

Structuring the interaction of the communication **partner** in such a way that the partner facilitates the student knowing that communication is expected, and using partner responses to teach more acceptable, functional, and conventional student responses through modeling and cueing; and

Arranging the **environment** to maximize the opportunities for communication and to increase the ability of the student to initiate appropriate communication interactions based on perceived environmental cues.

The diagram below is often used to exemplify the basic ECT strategy components.



ACTIVITIES

ECT activity selection parameters encourage activities that are functional, typical, and frequent occurrences within the classroom or other chosen environment. The activities should occur multiple times throughout the week to allow for the benefit of repetition. In this sense, ECT activities are like discrete trials, in that there is a perceived benefit from repetition. However, the similarity ends there, since the discrete trial format requires massed trials, and individual trials do not necessarily, in fact often do not, represent any functional activity. Discrete Trial Teaching, most strongly associated with O. Ivar Lovaas, Ph.D., of UCLA, has many advantages, including an environment that minimizes distractions, increases predictability, and provides exaggerated cues. Disadvantages seem to be in the areas of

generalization, socialization, and actual focus on functional communication. The stimuli used in the curriculum sets associated with communication seem to be more oriented towards rote vocabulary learning and demonstration of language concept comprehension. For example, the stimulus "say" is not one that occurs in many natural environments.

Other interventions such as Incidental Teaching, and Greenspan's developmental, relationship-based intervention model have more in common with the ECT activity philosophy. Incidental Teaching is often considered an applied behavior analysis intervention method, like discrete trial teaching, but there are several differences (Mann & Medley, 1999). Incidental Teaching is child-directed, where discrete trial teaching is not. Incidental Teaching embraces the concept of the "teachable moment", which is in fact a point made often in ECT training lectures. ECT strategies encompass the structured, constructed environment consistent with Incidental Teaching models, such as routine-based teaching and Mileau teaching (Karlan, 1989).

Like ECT, Greenspan's "Floor time" model embraces the value of routines (Greenspan, 1992). Greenspan talks about the value of pretend play to give students with autism spectrum disorder access to everyday activities such as feeding, fixing things, and nighttime routines. The use of play and everyday routines facilitates a child-directed rather than adult directive therapy style, and allows the therapist/teacher to find ways to turn non-intentional behaviors into expressions of intentionality. By engaging in the student's actions the therapist is able to utilize natural opportunities to develop communicative functions such as request or protest.

PARTNERS

The partner strategies taught as part of the ECT training are some of those most valued by participants. The ECT prompt hierarchy uses a least-to-most scaffolding of prompts and cues. The first step of the prompt hierarchy is the use of the expectant pause. Subsequent steps serve to refocus, then provide information in the form of choices or comments, and finally utilize the mand-model concept. The communication partner explicitly lets the student know that a response is expected, and with that not forthcoming, the partner provides a full model, thus completing the communication interaction cycle for that step in the routine or activity. Greenspan's model also recognizes the importance of setting the child up as the initiator. Even when the child is exhibiting repetitive movements, or stereotypies, the "floor time" partner joins in, making something perseverative suddenly interactive. The child takes the lead, regulating the amount of stimulation that is tolerable, and the adult follows the child.

Aspects of the discrete trial teaching methodology also employ an expectant waiting procedure, but this is most frequently seen in the generalization stages. Earlier stages that involve curriculum sets and specific stimuli do not seem to focus on student initiation, in fact tasks are often imitative in nature, dependent on a stimulus command or cue being directly

given. Time delays may be used as a prompt fading method to increase the amount of time between the delivery of the instruction, or cue, and the expected response. In ECT the wait time is tied into the activity and supported by the environmental cues so that the student initiates the interaction. ECT activities are structured to provide as many initiated communication opportunities as possible, and are sometimes construed as setting up dependency. But communicative competency is a problem-solving skill which leads to increased student participation. The difference is between independence and interdependence. ECT fosters interdependence by giving students the practice necessary to develop communication competency.

ENVIRONMENTAL ARRANGEMENTS

Optimal classroom environmental arrangement is the backbone of the ECT training program. Environmental arrangement is a consideration when designing the sequence of activities in which students will be involved for the purpose of communication intervention. Not all activities and routines are communicative, and sometimes the sequence of a typical daily routine has to be changed to increase the communicative potential of the activity. Establishing environmental cues is an important part of being able to implement the expectant wait strategy of the prompt hierarchy. Without the appropriate, and, hopefully, obvious cue the student would not become aware that a communication initiation is necessary for movement through, or completion of, the routine or activity.

Environmental structuring is also a major component of the TEACCH program (1998). Specific manipulations of the physical structure are set up to control for learning, control the student's focus, and control for distractions. TEACCH employs a highly visual framework. Tasks are represented visually to let the student know what the work/task is, how much work must be done, when the student will be finished, and what's next. Classrooms are visually structured to define group areas, transition areas, play areas, and individual and independent work areas.

Both ECT and TEACCH make use of a variety of visual supports (often called teaching displays in ECT trainings). Classroom and individual schedules, visual instructions or picture sequence charts, and even picture recipe cards are examples. Visual supports capitalize on visual strengths and minimize deficits of auditory processing. They can also provide information that the student may not know or be able to recall. The TEACCH philosophy assumes that persons with autism will need continued visual structure, and rather than fade it, they transfer successful visual strategies from old to new environments. A difference in the use of visual supports between ECT and TEACCH is that the TEACCH focus is on activity completion while the ECT focus is on building communication opportunities. The visual representation of tasks takes the language out of the routine. ECT combines the supports that visual strategies provide with the incidental learning elements that can be achieved from structured activities.

CONCLUSION

ECT fosters success for communication interaction because it takes into consideration that communication involves both the communicator and the communication partner. ECT teaches communication partners strategies and skills that will enhance communicative interactions, and assist classroom-based teams in designing activities with a focus on communicative interaction rather than task completion or independence. The five day ECT training program offers teachers, therapists and paraprofessionals an opportunity to learn and practice strategies that are functional and usable with students diagnosed with autism spectrum disorder. Assessment to determine the student's learning style, rate of learning, quality and consistency of learning, ease of generalization, and distractibility has to be on going, and this is supported by the data collection component of ECT. Data is collected on the student's level of achievement as well as on the classroom staff's use of the prompt hierarchy.

Visual supports and environmental arrangements that foster successful communication interactions are a major part of the ECT curriculum. Classrooms using the ECT model should be able to incorporate TEACCH physical structure strategies and use discrete trial teaching methods during portions of the day. Clinicians have been trained and educated to make informed decisions concerning clinical practice, and use a systematic and logical process when selecting treatment plans for clients. The task is in being able to critically evaluate the effectiveness of an intervention for a particular student, and not have to feel attached to one particular approach.

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Susan R. McCloskey-Dale smccloskey@worldnet.att.net
27 Oakglade Drive, Hummelstown, PA 17036 717-566-3060 (H)

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